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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,096	06/08/2005	Teunis Johannes Vink	NL 021230	1359

24737 7590 03/23/2007

PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
P.O. BOX 3001  
BRIARCLIFF MANOR, NY 10510

EXAMINER
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WILLIAMS, JOSEPH L

ART UNIT	PAPER NUMBER
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2879

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/23/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

**Application No.**

10/538,096

**Applicant(s)**

VINK ET AL.

**Examiner**

Joseph L. Williams

**Art Unit**

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 7, 8, and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Yaniv et al. (US 2002/0185949)

Regarding claim 7, Yaniv ('949) teaches in figure 2 a field emission device (no number), comprising; a field emitter material (201) for emitting electrons; a first electrode (203) and a second electrode (301) for applying an electric field over the field emitter material; and a dielectric layer (205) substantially in between the first and second electrodes, the dielectric layer being patterned by means of a liquid embossing technique (see paragraph 12).

Regarding claim 8, Yaniv ('949) teaches the dielectric layer comprises a pattern of gate holes (no number) for passing emitted electrons.

Regarding claim 10, Yaniv ('949) teaches the field emitter material comprises carbon nanotubes.

Regarding claim 11, Yaniv ('949) teaches the field emitter material comprises a graphite particular emitter (read carbon).

Regarding claim 12, Yaniv ('949) teaches display device, comprising a field emission device according to claim 7.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobson et al. (US 6,517,995) in view of Yaniv et al. (US 2002/0185949).

Regarding claim 1, Jacobson ('995) teaches in figures 1 and 3 and the corresponding text a method of manufacturing a field emission device, comprising the steps of; providing a layer of liquid material (365) on a substrate (300); engaging a patterned stamp (370) with the layer of liquid material, for embossing the layer; curing the layer of liquid material, thereby forming a solidified, patterned dielectric layer.

Jacobson ('995) does not disclose forming an electrode on the patterned dielectric layer.

Further regarding claim 1, Yaniv ('949) teaches forming an electrode (301) on a dielectric layer (205) for the purpose of forming a field emission device.

Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the electrode of Yaniv to the dielectric layer of Jacobson for the purpose of forming a filed emission device.

Regarding claim 2, Jacobson ('995) teaches engaging substantially cylindrical protrusions of the stamp with the layer of liquid material.

Regarding claim 3, Jacobson ('995) teaches exerting an additional pressure on the stamp during the engaging step, the pressure being set to a predetermined value.

Regarding claim 4, Jacobson ('995) teaches the liquid material comprises a hydrolysis mixture of an organosilane compound and an inorganic filler material.

Regarding claim 5, Jacobson ('995) teaches the liquid material comprises polyimide.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yaniv et al. (US 2002/0185949), of record, in view of Komatsu (US 5,448,132).

Regarding claim 9, Yaniv ('949) teaches all of the claimed limitations except for the gate holes comprise a tapered portion adjacent the second electrode, the second electrode extending at least partly into the tapered portion of the gate holes.

Further regarding claim 9, Komatsu ('132) teaches in figure 2B a field emission device comprised of, in part, a gate holes comprise a tapered portion adjacent the second electrode, the second electrode extending at least partly into the tapered portion of the gate holes for the purpose of improving the electron flow of the emitter and thus the image of the display.

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Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the tapered gate portions of Komatsu in the display of Yaniv for the purpose of improving the electron flow of the emitter and thus the image of the display.


***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Williams whose telephone number is (571) 272-2465. The examiner can normally be reached on M-F (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Joseph L. Williams  
Primary Examiner  
Art Unit 2879